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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/672,748 | 09/27/2003 | Li-Kuo Dai | 003-03-024 | 1003 |

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APEX JURIS, PLLC
TRACY M HEIMS
LAKE CITY CENTER, SUITE 410
12360 LAKE CITY WAY NORTHEAST
SEATTLE, WA 98125

EXAMINER

WHITMORE, STACY

ART UNIT PAPER NUMBER

2825

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | |
|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/672,748 | | DAI ET AL. | |
| | Examiner | | Art Unit | |
| | Stacy A. Whitmore | | 2825 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

FINAL ACTION

Specification

1. The specification (including the abstract and claims), and any amendments for applications, except as provided for in 37 CFR 1.821 through 1.825, must have text written plainly and legibly either by a typewriter or machine printer in a nonscript type font (e.g., Arial, Times Roman, or Courier, preferably a font size of 12) lettering style having capital letters which should be at least 0.3175 cm. (0.125 inch) high, but may be no smaller than 0.21 cm. (0.08 inch) high (e.g., a font size of 6) in portrait orientation and presented in a form having sufficient clarity and contrast between the paper and the writing thereon to permit the direct reproduction of readily legible copies in any number by use of photographic, electrostatic, photo-offset, and microfilming processes and electronic capture by use of digital imaging and optical character recognition; and only a single column of text. See 37 CFR 1.52(a) and (b).

The application papers are objected to because at least the equations under paragraphs 0069 and 0073 are not legible.

A legible substitute specification in compliance with 37 CFR 1.52(a) and (b) and 1.125 is required.

2. The disclosure is objected to because of the following informalities: The equations as depicted in paragraphs 0069 and 0073 are not adequately described because all the elements and variables used in the equations are not described as to what they are.

Appropriate correction is required.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the method step in claims 1-2, and 4 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-2, and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

I. As for claim 1, applicant claims a method of producing photodiodes, however, none of the method steps are directed towards producing photodiodes. Clarify.

II. As for claim 1, steps 1-3 appear unrelated, how is a uniform distribution, a maximum and peak value and providing multiple photo-responses interrelated? What is accomplished by the steps.

III. As for claim 1, a maximum photo-response and peak value appear to be the same thing. Clarify.

IV. As for claim 2, applicant claims forming said back-end color compensation circuit, however, steps (a)-(c) as claimed, do not actually form a back-end color compensation circuit.

V. As for claim 4, applicant claims design methods of claim 1, and method (3) as if method (3) were an independent method. Clarify.

As for claim 4, applicant claims "establishing a multi layered PN junction fabrication process to provide a lowest concentration in the scope of the fabrication process. This claim language is unclear. What is a lowest concentration in the scope of the fabrication process?

VI. In claim 4, applicant claims separately picking out a photo response of an individual frequency band. This step is unclear. How can a photo response be picked out of an individual frequency band, and how is this step related to the rest of the steps in claim 4?

VII. In claim 4, applicant claims short circuiting.....restlessly. This language is unclear. How are electrons and holes produced "restlessly"?

VIII. In claim 4, applicant claims "where said switch....by disconnecting thereof....therethrough". This language is unclear. Does thereof and therethrough relate to the photodiode terminals? Clarify.

IX. In claim 4, lines 11-12, applicant refers to "PN junction thereby" and "these PN junctions", it is unclear as to exactly which PN junctions applicant intends to refer to. For example, in claim 4, applicant discloses a multilayered PN junction fabrication process, or in claim 1, a multiple PN junctioned photodiode, or in claim 2,

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multiple photodiodes. Clarify which PN junctions belong to what photodiode or photodiodes.

X. Claims 1-2, and 4 recite multiple instances of either a photo-response or photo-responses, all of which refer back to either a photodiode (such as in claim 1, step (3); or claim 2, step (a)) or multiple photodiodes (such as (claim 1, preamble; claim 2, step (b))). It is unclear which photo-responses belong to what photodiode or photodiodes. Clarify.

XI. Claim 2 recites the limitation "said back-end color compensation circuit" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

XII. Claim 2 recites the limitation "said photo-sensing are" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim.

XIII. Claim 2 recites the limitation "the total photo-response" in line 9. There is insufficient antecedent basis for this limitation in the claim.

XIV. Claim 2 recites the limitation "each amplifier" in line 12. There is insufficient antecedent basis for this limitation in the claim.

XV. Claim 2 recites the limitation "the back-end amplifier gain" in line 18. There is insufficient antecedent basis for this limitation in the claim.

XVI. Claim 2 recites the limitation "the corresponding size rations" in line 20. There is insufficient antecedent basis for this limitation in the claim.

XVII. Claim 4 recites the limitation "the color photodiodes" in line 2. There is insufficient antecedent basis for this limitation in the claim.

XVIII. Claim 4 recites the limitation "the electrons and holes" in lines 10-11. There is insufficient antecedent basis for this limitation in the claim.

XIX. Claim 4 recites the limitation "the photo currents" in lines 11-12. There is insufficient antecedent basis for this limitation in the claim.

XX. Claim 4 recites the limitation "said specified photo signal selectional method" in line 19. There is insufficient antecedent basis for this limitation in the claim.

5. Applicant's arguments filed may 8, 2006 have been fully considered but they are not persuasive.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stacy A. Whitmore whose telephone number is (571) 272-1685. The examiner can normally be reached on Monday-Thursday, alternate Friday 6:30am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on (571) 272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Stacy A Whitmore

Primary Examiner

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SAW

July 12, 2006

A handwritten signature in black ink, appearing to read 'SAW', located below the typed name of the examiner.